

## **REMARKS**

**[0001]** Applicant respectfully requests reconsideration and allowance of all of the claims of the application. Claims 1-5, 10-15, 17, 20-23, 25, and 30-34 are presently pending. Claims amended herein are: 1, 5, 11, 13, 15, 25, 31, and 33. Claims withdrawn or cancelled herein are: 12 and 20. New claims added herein are: 35-37.

### **Formal Request for an Interview**

**[0002]** If the Examiner's reply to this communication is anything other than allowance of all pending claims, then I formally request an interview with the Examiner. I encourage the Examiner to call me—the undersigned representative for the Applicant—so that we can talk about this matter so as to resolve any outstanding issues quickly and efficiently over the phone.

**[0003]** Please contact me to schedule a date and time for a telephone interview that is most convenient for both of us. While email works great for me, I welcome your call as well. My contact information may be found on the last page of this response.

### **Claim Amendments and Additions**

**[0004]** Without conceding the propriety of the rejections herein and in the interest of expediting prosecution, Applicant amends claims 1, 5, 11, 13, 15, 25, 31, and 33 herein. Applicant amends claims to clarify claimed features. Such amendments are made to expedite prosecution and more quickly identify allowable subject matter. Such amendments are merely intended to clarify the

claimed features, and should not be construed as further limiting the claimed invention in response to the cited reference.

**[0005]** Claim 1 is amended to move language from the preamble of the claim to the body of the claim. Claims 5, 15, 25, 31, and 33 are amended to remove language that the Examiner has indicated as being indefinite. Claim 11 has been amended to include elements from dependent claim 12. Claim 13, which originally depended from claim 12, has been amended to depend from claim 11.

**[0006]** Furthermore, Applicant adds new claims 35-37 herein. Claim 35 is equivalent to claim 3, rewritten in independent form, which the Examiner has indicated is allowable. Claims 36 and 37 depend from claim 35 and correspond to dependent claims 4 and 5. Accordingly, none of these new claims introduce new matter, and in fact, each of these new claims is allowable.

## **Formal Matters**

**[0007]** This section addresses any formal matters (e.g., objections) raised by the Examiner.

### **Drawings**

**[0008]** The Examiner objects to the drawings for not including reference signs for “rows 202”, mentioned in the description. This same objection was presented in the previous Office Action. In a response to that Office Action, filed July 24, 2007, Applicant submitted a replacement drawing sheet that included Fig. 2, corrected to include reference number 202. Accordingly, Applicant believes this objection to be in error.

**[0009]** However, in case the Examiner did not receive the replacement drawing sheet, the replacement drawing sheet is being re-submitted herewith. If the Examiner finds the replacement drawing sheet insufficient for overcoming this objection, then it is requested that the Examiner contact the undersigned representative for the Application to discuss such insufficiency.

### **Claims**

**[0010]** The Examiner objects to claims 3, 12, 13, and 23 as being dependent upon a rejected base claim, but indicates that these claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**[0011]** Claim 3 has been rewritten herein, in independent form, as new claim 35. Accordingly, claim 35 is allowable. Furthermore, arguments as to the

allowability of claim 1 are presented below. Based on these arguments, Applicant submits that claim 1 is allowable, and therefore, claim 3, which depends from claim 1, is also allowable, and the objection to claim 3 should be withdrawn.

**[0012]** Claim 11 is amended herein to incorporate the elements of claim 12, which depends directly from claim 11, and cancels claim 12. Accordingly, Applicant submits that claim 11 is allowable and that the objection to claim 12 is moot.

**[0013]** Claim 13 is amended to depend from claim 11, which, as indicated above, is allowable. Accordingly, Applicant requests that the objection to claim 13 be withdrawn.

## **Substantive Matters**

### **Claim Rejections under § 112 2<sup>nd</sup> ¶**

[0014] Claims 5, 15, 25, 31, and 33 are rejected under 35 U.S.C. § 112, 2<sup>nd</sup> ¶. Applicant respectfully traverses this rejection. Furthermore, in light of the amendments presented herein, Applicant submits that these rejections are moot. Accordingly, Applicant asks the Examiner to withdraw these rejections.

### **Claim Rejections under § 102**

[0015] The Examiner rejects claims 1, 2, 4, 5, 10, 11, 14, 15, 17, 20-22, 25, and 30-34 under § 102. For the reasons set forth below, the Examiner has not shown that the cited reference anticipates the rejected claims. Accordingly, Applicant respectfully requests that the § 102 rejections be withdrawn and the case be passed along to issuance.

[0016] The Examiner's rejections are based upon **Gottlob**: *Gottlob, et al.*, US Patent No. 7,162,485.

### **Overview of the Application**

[0017] The Application describes a technology for transforming SQL syntax tree representations of relational database queries into relational algebra representations.

## **Cited Reference**

[0018] The Examiner cites Gottlob as the only reference in the anticipation-based rejections. Gottlob describes a technology for efficient evaluation of XPath expressions over XML documents.

## **Anticipation Rejections**

[0019] Applicant submits that the anticipation rejections are not valid because, for each rejected claim, no single reference discloses each and every element of that rejected claim.<sup>1</sup> Furthermore, the elements disclosed in the single reference are not arranged in the manner recited by each rejected claim.<sup>2</sup>

## **Based upon Gottlob**

[0020] The Examiner rejects claims 1, 2, 4, 5, 10, 11, 14, 15, 17, 20-22, 25, and 30-34 under 35 U.S.C. § 102(e) as being anticipated by Gottlob. Applicant respectfully traverses the rejection of these claims. Based on the reasons given below, Applicant asks the Examiner to withdraw the rejection of these claims.

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<sup>1</sup> "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); also see MPEP §2131.

<sup>2</sup> See *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

Independent Claim 1

**[0021]** Applicant submits that Gottlob does not anticipate this claim because it does not disclose the following elements as recited in this claim (with emphasis added):

A method for algebrizing a ***syntax tree representation of a relational database query*** into a ***relational algebra representation***, said syntax tree comprising a plurality of nodes, the method comprising performing at least two operations in a single pass through the syntax tree representation, wherein at least one of the operations is selected from a group of operations comprising:

- table and column binding;
- aggregate binding;
- type derivation;
- constant folding;
- property derivation; and
- tree translation.

**[0022]** Regarding the claimed, “algebrizing a ***syntax tree representation of a relational database query*** into a ***relational algebra representation***, said syntax tree comprising a plurality of nodes,” the Examiner cites Gottlob, column 1, lines 27-30. (Office Action, page 3.) The cited portion of the reference states, “XPath has been proposed by the W3C [W4] primarily as a practical language for selecting nodes from XML document trees. But it is also designed to be used for formulating expressions that evaluate to a string, a number or a Boolean value.”

**[0023]** There is no mention in the cited portion of Gottlob (or anywhere else in the reference) of a **relational database query**, as specified in claim 1. Rather, Gottlob is focused on “efficient processing of XPath queries.” (Gottlob, Title.) According to <http://www.dpawson.co.uk/xsl/xislvocab.html>, XPath is defined as:

XPath is a language that describes how to locate specific elements (and attributes, processing instructions, etc.) in a document. It allows you to locate specific content within an XML document. XPath treats an XML document as a logical ordered tree.

**[0024]** An XML document is not the same as a relational database, and Applicant has found no indication that XPath has anything to do with relational database queries. Consequently, Gottlob does not disclose all of the elements and features of this claim. Accordingly, Applicant asks the Examiner to withdraw the rejection of this claim.

**[0025]** While Applicant has provided arguments above, indicating that claim 1 is not anticipated by Gottlob, Applicant herein amends claim 1 to move the clarification that the method is related to a relational database query from the preamble of the claim to the body of the claim. Applicant submits that this amendments is in no way substantive, but is rather a restructuring of the claim elements already present in claim 1.



Dependent Claims 2, 4, 5, and 31

[0026] These claims depend upon independent claim 1. As discussed above, claim 1 is allowable. It is axiomatic that any dependent claim which depends from an allowable base claim is also allowable. Additionally, some or all of these claims may also be allowable for additional independent reasons.

Independent Claim 10

[0027] Applicant submits that Gottlob does not anticipate this claim because it does not disclose the following elements as recited in this claim (with emphasis added):

A method for **algebrizing a syntax tree representation of a relational database query into a relational algebra representation**, said syntax tree comprising a plurality of nodes, and said algebrizing comprising a plurality of operations, said method comprising the inclusion of constant folding as an operation among said plurality of operations.

[0028] As with claim 1, regarding the claimed, “algebrizing a ***syntax tree representation of a relational database query*** into a ***relational algebra representation***, said syntax tree comprising a plurality of nodes,” the Examiner cites Gottlob, column 1, lines 27-30. (Office Action, page 4.)

[0029] There is no mention in the cited portion of Gottlob (or anywhere else in the reference) of a **relational database query**, as specified in claim 10.

**[0030]** As discussed above with reference to claim 1, An XML document is not the same as a relational database, and Applicant has found no indication that XPath has anything to do with relational database queries. Consequently, Gottlob does not disclose all of the elements and features of this claim. Accordingly, Applicant asks the Examiner to withdraw the rejection of this claim.

*Independent Claim 11*

**[0031]** Claim 11 is amended herein, rendering the rejection of claim 11 moot. Claim 11 has been amended to include elements of dependent claim 12, which has been indicated by the Examiner as being allowable. Accordingly, Applicant respectfully requests that the rejection of claim 11 be withdrawn.

*Dependent Claims 14, 15, 17, 32, and 33*

**[0032]** These claims depend ultimately upon independent claim 11. As discussed above, claim 11 is allowable. It is axiomatic that any dependent claim which depends from an allowable base claim is also allowable. Additionally, some or all of these claims may also be allowable for additional independent reasons.

Independent Claim 20

[0033] Claim 20 is canceled herein, rendering the rejection of claim 20 moot.

Independent Claim 21

[0034] Applicant submits that Gottlob does not anticipate this claim because it does not disclose the following elements as recited in this claim (with emphasis added):

A computer-readable medium comprising computer-readable instructions for **algebraizing a syntax tree representation of a relational database query into a relational algebra representation**, said syntax tree comprising a plurality of nodes, said computer-readable instructions comprising instructions for performing constant folding on said syntax tree representation.

[0035] As with claim 1, regarding the claimed, “algebraizing a ***syntax tree representation of a relational database query*** into a ***relational algebra representation***, said syntax tree comprising a plurality of nodes,” the Examiner cites Gottlob, column 1, lines 27-30. (Office Action, page 6.)

[0036] There is no mention in the cited portion of Gottlob (or anywhere else in the reference) of a **relational database query**, as specified in claim 21.

[0037] As discussed above with reference to claim 1, An XML document is not the same as a relational database, and Applicant has found no indication that XPath has anything to do with relational database queries. Consequently,

Gottlob does not disclose all of the elements and features of this claim. Accordingly, Applicant asks the Examiner to withdraw the rejection of this claim.

Dependent Claims 22, 25, and 34

[0038] These claims ultimately depend upon independent claim 21. As discussed above, claim 21 is allowable. It is axiomatic that any dependent claim which depends from an allowable base claim is also allowable. Additionally, some or all of these claims may also be allowable for additional independent reasons.

Independent Claim 30

[0039] Applicant submits that Gottlob does not anticipate this claim because it does not disclose the following elements as recited in this claim (with emphasis added):

A computer-readable medium comprising computer-readable instructions for **algebrizing a syntax tree representation of a relational database query into a relational algebra representation**, said syntax tree comprising a plurality of nodes, and said algebrizing comprising a plurality of operations, said computer-readable instructions comprising instructions for constant folding as an operation among said plurality of operations.

[0040] As with claim 1, regarding the claimed, "algebrizing a ***syntax tree representation of a relational database query*** into a ***relational algebra***

**representation**, said syntax tree comprising a plurality of nodes,” the Examiner cites Gottlob, column 1, lines 27-30. (Office Action, page 7.)

[0041] There is no mention in the cited portion of Gottlob (or anywhere else in the reference) of a **relational database query**, as specified in claim 30.

[0042] As discussed above with reference to claim 1, An XML document is not the same as a relational database, and Applicant has found no indication that XPath has anything to do with relational database queries. Consequently, Gottlob does not disclose all of the elements and features of this claim. Accordingly, Applicant asks the Examiner to withdraw the rejection of this claim.

### **Dependent Claims**

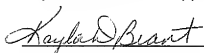
[0043] In addition to its own merits, each dependent claim is allowable for the same reasons that its base claim is allowable. Applicant requests that the Examiner withdraw the rejection of each dependent claim where its base claim is allowable.

## **Conclusion**

[0044] All pending claims are in condition for allowance. Applicant respectfully requests reconsideration and prompt issuance of the application. If any issues remain that prevent issuance of this application, the **Examiner is urged to contact me before issuing a subsequent Action.** Please call or email me at your convenience.

Respectfully Submitted,

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Representatives for Applicant



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